

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Confirmation No. 1107

David Szymanski

Application No.: 10/780,323

Examiner: Clark F. Dexter

Filed: February 17, 2004

Docket No.: INDI 200002US01

Title: WOOD CUTTING SAW CHAIN AND REPLACEABLE CUTTING MEMBERS

**BRIEF ON APPEAL**

Appeal from Group 3724

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**I. REAL PARTY IN INTEREST**

The real party in interest for this appeal and the present application is the inventor(s) David Szymanski. The present application is not assigned to, or subject of assignment to, any other party.

## **II. RELATED APPEALS AND INTERFERENCES**

Following are identified prior or pending appeals, interferences or judicial proceedings, known to Appellant, Appellant's representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal:

Appellant previously filed an Appeal to the Board of Patent Appeals and Interferences on December 23, 2009. A non-final Office Action was issued in response due to new grounds of rejection not necessitated by the Appeal Brief.

### **III. STATUS OF CLAIMS**

Claims 1-3, 5-10, 12-16, 18-20, 23 and 24 are on appeal.

Claims 1-3, 5-27, 29 and 30 are pending.

Claims 1-3, 5-10, 12-16, 18-20, 23 and 24 are rejected.

Claims 4 and 28 have been cancelled.

Claims 11, 17, 21, 22, 25-27, 29 and 30 are withdrawn from consideration.

**IV. STATUS OF AMENDMENTS**

An Amendment After Final Rejection was filed on December 10, 2010. By an Advisory Action dated December 16, 2010, it was indicated that the requested amendments were not entered.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

The present application is directed toward a quick change cutting link of a saw chain for cutting wood.

Independent claim 1 is directed to a quick change cutting link 12 (Figs. 1, 6, 7 and 8, page 8, line 3) for a saw chain for cutting wood (page 9, lines 1-3) including a base member 16 having a lead end and a rear end (Fig. 1, page 8, line 6) adapted to be pivotally connected to an associated connecting link at each end (Fig. 1, page 8, line 6) forming the saw chain, which includes a seat surface 26 having a first taper and a lower surface having a second taper (Fig. 3, page 9, lines 9-10). The quick change cutting link 12 further includes a cutting member (Figs. 2-5, page 9, line 8) that comprises a cutting edge 34 (Fig. 1-3, 6 and 8, page 9, line 15) and releasably engages the base member 16. The cutting member includes an upper surface 24 having a third taper (Fig. 3, page 9, lines 8-9) and an under surface having a fourth taper. The upper surface 24 having the third taper is constructed from sintered and compacted particles of abrasion resistant material (page 11, lines 17-19), the first taper and the third taper extend at an angle ranging from about  $0.5^\circ$  to about  $45^\circ$  (page 10, line 2) relative to a direction of intended chain travel and the second taper and the fourth taper extend at an angle of about  $0.5^\circ$  to about  $45^\circ$  relative to a direction opposite of intended chain travel, wherein each pair of tapers is at a close tolerance effective to cause self-locking engagement (page 10, lines 3-4) of the first taper of the seat surface 26 and the third taper of the cutting member surface 24 and of the second taper of the lower surface and the fourth taper of the cutting member surface 24.

Independent claim 15 is directed to a quick change cutting link 12 for a saw chain for cutting wood (Figs. 1 and 6-8, page 9, lines 1-3), comprising a base member 16, having a lead end and a rear end, adapted to be pivotally connected to a connecting link at each end forming the saw chain (page 8, line 3). The base member 16 comprises a seat surface 26 having a first taper and a lower surface having a second taper (page 9, line 9); and a cutting member (Figs. 2-5, page 9, line 8) that comprises a cutting edge 34 (Fig. 1-3, 6, and 8, page 9, line 15) and releasably engages the seat surface 26 of the base member 16. The cutting member includes an upper surface with a third taper and an under surface with a fourth taper, the second and fourth taper extending at an angle of about  $0.5^\circ$  to about  $45^\circ$  relative to a direction opposite of intended chain travel (page 10, lines 15-22). The cutting member and the seat surface 26 each consists

essentially of sintered and compacted particles of abrasion resistant material (page 11, lines 11-12).

Claim 16 is directed to the quick change cutting member of independent claim 15 (Figs. 1 and 6-8, page 9, lines 1-3), wherein the first taper and the third taper extend at an angle ranging from about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction of travel of the cutting member when fastened on a chain (page 10, lines 26-17), the taper having a close tolerance comprising no more than  $0.5^{\circ}$  (page 10, lines 4-6).

Independent claim 18 is directed to a base member 16 of a cutting link 12 for a saw chain for cutting wood, having a lead end and a rear end (page 8, line 5), the base member being pivotally connected to an associated connecting link at each end forming the saw chain (page 8, line 5). The base member 16 comprises a seat surface 26 having an upper taper (page 9, line 9) extending at an angle ranging from about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction of intended travel of the base member when fastened on the chain (page 10, lines 2-4) and a lower taper extending at an angle of about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction opposite of intended travel of the base member when fastened on the chain (page 10, lines 24-27). The upper taper is adapted to mate with a top taper on an associated cutting member and the lower taper is adapted to mate with a bottom taper on an associated cutting member. Each taper has a close tolerance comprising no more than  $0.5^{\circ}$  to the mating taper of the associated cutting member (page 10, lines 4-7), wherein the base member 16 consists essentially of sintered and compacted particles of abrasion resistant material (page 11, lines 11-12).

Independent claim 19 is directed to a quick change cutting link 12 for a saw chain for cutting wood (Figs. 1 and 6-8, page 9, lines 1-3), comprising a base member 16 having a lead end and a rear end, adapted to be pivotally connected to a connecting link at each end forming the saw chain (page 8, line 5). The base member 16 comprises a seat surface 26 having a first taper (page 9, line 9), a lower surface having a second taper, and a stop surface 32 (page 9, line 12) located upstream of the seat surface relative to the direction of travel of the chain, and a cutting member (page 9, line 8) that comprises a cutting edge 34 (Figs. 1-3, 6 and 8, page 9, line 15) and releasably engages the seat surface 26 of the base member 16, the cutting member including an upper surface 42 having a third taper and an under surface having a fourth taper (Fig. 3, page 9, lines 8-9), wherein the first taper and the third taper extend at an angle ranging from about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction of intended chain travel (page 10, lines 2-3),



and the second taper and the fourth taper extend at an angle of about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction opposite of intended chain travel (page 10, lines 24-27), wherein each pair of tapers is a close tolerance effective to cause locking engagement of the first taper of the seat surface 26 and the second taper of the cutting member surface 24 (page 10, lines 3-7), and the cutting member comprises sintered and compacted particles of abrasion resistant material (page 11, lines 11-12).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The following grounds of rejection are presented for review:

Claims 1, 16, 18, 19, 20, 23, and 24 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3, 6-9, 12, 15, 18-20, 23 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wright (U.S. Patent No. 4,744,278) in view of Funakubo (U.S. Patent No. 3,800,633).

Claims 1-3, 6-9, 13-16, 18-20, 23 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Raetz (U.S. Pat. No. 3,547,167) in view of Funakubo (U.S. Pat. No. 3,800,633), or in the alternative, over Raetz in view of Funakubo and Wright.

Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Wright in view of Funakubo or the combination of Raetz in view of Funakubo as applied to claim 1, and further in view of any one of Ackley (U.S. Pat. No. 2,725,083), Oehrli (U.S. Patent No. 3,144,059), Ehlen (U.S. Pat. No. 3,308,859).

Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Wright in view of Funakubo or the combination of Raetz in view of Funakubo as applied to claim 1, and further in view of any one of Dawson (U.S. Pat. No. 3,023,490) or Gaddis (U.S. Pat. No. 4,750,396).

## VII. ARGUMENT

### A. Claims 1, 15, 16, 18, 19, 20, 23 and 24 are Not Indefinite

The Office Action submits that the recitation “at each end” is vague as to whether it refers to the base member or the associated connecting link. However, Appellant submits that claims 1, 15, 19, and similarly claim 18, recite: “a base member, having a **lead end** and a **rear end**, pivotally connected to an associated cutting link **at each end** forming said saw chain.” (emphasis added). Accordingly, the only “ends” recited in the claim are the **lead end** and the **rear end**. Appellant submits that “at each end” necessarily includes each “end” that has been introduced earlier in the claim. As clearly set forth in the claims, the only “ends” recited are those associated with the base member (i.e. the lead end and the rear end). The connecting link is not described as having any “ends” in claims 1, 15, 18, and 19, and therefore it is improper for the Examiner to read limitations into the claim that are not present.

The Office Action further submits that the limitations “relative to the direction of intended chain travel” and “relative to a direction opposite of intended chain travel” renders the claim vague and indefinite since the structure of the link is being positively defined in terms of the chain and an intended use thereof, which is not set forth as part of the claimed invention. Appellant submits, however, that the present claims are directed to “[a] quick change cutting link for a **saw chain for cutting wood**” (emphasis added) that includes “a base member, having a lead end and a rear end, pivotally connected to an associated connecting link at each end **forming said saw chain**.” (emphasis added). Therefore, the saw chain is clearly set forth as part of the claimed invention and it is entirely proper to define the link in terms of the chain. Appellant asserts that it is common knowledge that a saw chain travels in one direction around a guide bar, and is configured such that the chain must travel in this direction in order to properly cut wood. Therefore, the recitation of a lead end and rear end orient the cutting link members and the chain relative to intended chain travel. Clearly, the leading end is the end of the base member that **leads** the chain around the guide bar. The Examiner argues that the recitation of the saw chain provides no clear implication of structure; however, Appellant submits that connecting the base member to the connecting link and forming a saw chain **unquestionably adds structure** to the claim and to the base member in particular. That the Examiner holds this concept to be vague is baseless.

With specific reference to claim 16, the Examiner recites that the recitation “a chain” is

vague as to whether it refers to that previously set forth in claim 15. In Appellant's After-Final Response, it was proposed to amend claim 16 to recite "the chain" rather than "a chain" clarifying what claim 16 refers to. Similarly, the Examiner asserts that the limitation "an associated cutting member" in claim 18 is vague as to whether it refers to that previously set forth or to another such cutting member. Also in Appellant's After-Final Response, it was proposed to amend claim 18 to recite "the associated cutting member" to clarify to which cutting member claim 18 refers. Although entry of the Amendment would have removed an issue on appeal and would have imparted no burden on the Examiner, by way of the Advisory Action, the Examiner refused to enter the amendments. Appellant requests that this rejection be held in abeyance pending outcome of the appeal.

With further reference to claim 18, the Examiner recites that the recitation "comprising no more than 0.5° to the mating taper of said associated cutting member" is vague and indefinite, since the base member is being positively defined in terms of the cutting member which is not part of the claimed invention. Appellant respectfully submits that claim 18 describes the associated cutting member in terms of the claimed base member. For instance, the upper taper of the base member is said to be adapted to mate with a top taper of the associated cutting member, which simply orients the associated cutting member in terms of the base member. Accordingly, the tolerance is strictly a feature of the base member taper and is not being defined in terms of the cutting member, but does help to orient the cutting member in terms of the base member, which is positively defined in the claim. The taper's ability to achieve a close tolerance with the cutting member is a property of the base member and is being defined as such. The reference to the cutting member simply puts this feature into context.

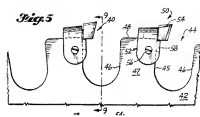
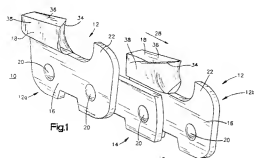
As such, Appellant respectfully submits that the aforementioned rejections should be reversed.

**B. The Rejection of Claims 1-3, 6-9, 12, 15, 18-20, 23 and 24 Over Wright in View of Funakubo is Erroneous**

The present claims are directed to a quick change cutting link for a saw chain for cutting wood including a base member, having a lead end and a rear end, adapted to be pivotally connected to an associated connecting link at each end forming the saw chain, which includes a seat surface having a first taper and a lower surface having a second taper. The quick change cutting link further includes a cutting member that comprises a cutting edge and releasably

engages the base member. The cutting member includes an upper surface having a third taper and an under surface having a fourth taper, the upper surface having the third taper constructed from sintered and compacted particles of abrasion resistant material, wherein the first taper and said third taper extend at an angle ranging from about  $0.5^\circ$  to about  $45^\circ$  relative to a direction of intended chain travel at the second taper and the fourth taper extend at an angle of about  $0.5^\circ$  to about  $45^\circ$  relative to a direction opposite of intended chain travel. Each pair of tapers is at a close tolerance effective to cause self-locking engagement of the first taper of the seat surface and the third taper of said cutting member surface and of the second taper of the lower surface and the fourth taper of the cutting member surface. It is respectfully submitted that Wright does not disclose each and every limitation comprising the subject claims.

Particularly, Appellant maintains that Wright, being directed to a replaceable cutter element for a **circular saw** including a clevis and an insertable tooth, does not teach or remotely suggest the presently claimed quick change cutting link, with a lead end and a rear end, pivotally connected to a connecting link **at each end**, forming a saw chain. In the Examiner's remarks, it is provided that since none of the claims are directed to a saw chain and the recitations directed to the saw chain do not clearly imply or assign any specific structural element/configuration to the link, the recitations directed to the saw chain must be considered to be a recitation of intended use of the cutting link and cannot serve to distinguish the claimed invention. Appellant respectfully submits that the recitations of the present claims are not directed to a saw chain, but rather to a **quick change cutting link** that is configured such that it has two ends that are points of connection with a connecting link **to form a saw chain**, which is illustrated below (left).



As illustrated above, the presently claimed quick change cutting link (left) is distinct from Wright (right), which discloses that a clevis 52 is attached to the leading edge of a shoulder 47 of the circular saw plate 42 by a pin 56. Each clevis link is separately attached to a shoulder and does not connect to any other links. Accordingly, the clevis in Wright clearly does not include two ends that **each connect to a connecting link**, forming a saw chain. The clevis is simply not configured to attach to a connecting link at each end forming a saw chain, particularly since a connecting link would serve no functional purpose since the circular saw plate is a single piece and does not have any reason to use connecting links.

The Examiner further submits that the claims do not clearly require more than one connection point on the base member. Appellant respectfully submits that connecting a link with two ends to connecting links **at each end** necessarily requires that there be connection points **at each end**. Without two connection points, the connecting links would not be physically capable of connecting with each end of the base member. The Examiner comments that Appellant's statement, in a response filed June 23, 2010, that "there is no saw chain comprising links that would call for such construction" lacks sufficient support and fails to list each and every saw chain or cutting chain in existence. However, the Examiner appears to have taken the statement out of context. This statement simply identifies the lack of any suggestion in Wright to be modified to connect to connecting links as presently claimed, since there is **no saw chain** (in Wright), and therefore **no links** to connect to create such a chain. Applicant did not intend this statement to include each and every saw chain ever in existence, but rather only that of Wright, or more precisely, the lack of any saw chain in Wright.

The Examiner further submits that although Wright lacks the specific material designations for each of the base member and cutter member, the use of such material is old and well known in the art, and cites Funakubo in support. Appellant submits, however, that even assuming Funakubo discloses the use of such materials in cutting members and even assuming the propriety of combining Funakubo with Wright, such a combination still does not disclose or suggest the claimed invention. Funakubo fails to make up for the aforementioned deficiencies of Wright, and accordingly, reversal of the rejection and allowance of the claims is respectfully requested.

**C. The Rejection of Claims 1-3, 6-9, 16, 18, 19, 20, and 23-24 Over Raetz in view of Funakubo Must be Reversed**

Claims 1-3, 6-9, 13-16, 18-20, 23 and 24 additionally stand rejected under 35 U.S.C. §103(a) as being unpatentable over Raetz in view of Funakubo, or in the alternative over Raetz in view of Funakubo and Wright. Appellants respectfully traverse for at least the following reason. Raetz and Funakubo do not, individually or in combination, teach or suggest the present limitations as recited in the subject claims.

Appellant submits that Raetz discloses cutting tooth link that has a stud protruding in the cutting direction that is configured to accept a cutting sleeve. While acknowledging that Raetz discloses that the underside of the stud 18 and the upper edge of the cutting body 19 taper toward each other in a direction counter to the cutting direction at an angle, Appellant submits that Raetz fails to identify any angle ranges that would suggest the presence of close tolerances, such as  $1^\circ$  or  $0.5^\circ$ , effective to cause a self-locking engagement, as presently claimed.

Additionally, Appellant asserts that although Raetz discloses the use of tapers, Raetz teaches differently placed tapers than the tapers presently claimed, and therefore a different configuration. The present claims recite a base member having a seat surface having a first taper 26 and a lower surface having a second taper (A-See Below, lower left). Further, a cutting member is disclosed as having an upper surface with a third taper 24 and an under surface having a fourth taper (B).

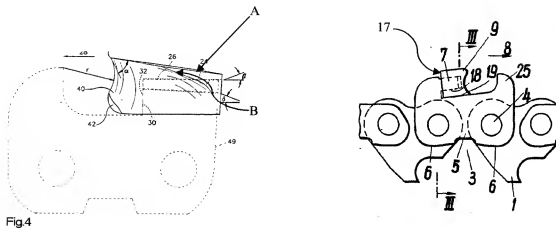


Fig.4

In contrast, as illustrated above, Raetz (upper right) discloses that edges 18 and 19 are tapered, and the tongue 17 may be conical. However, Raetz fails to teach or slightly suggest that

the portion of the sleeve associated with the upper edge of the stub comprises any such taper, nor is a taper distinguishable from the figure. Accordingly, Raetz lacks the upper tapering that is provided by the presently claimed first taper of the seat surface and additionally lacks the requirement that **each pair of tapers** includes a close tolerance effective to cause self-locking. At most, Raetz provides a single pair of tapers 18 and 19; however this pair of tapers does not even comprise two edges in contact with one another, but rather two edges of the link body on opposite sides of the tongue 17. The precise tapering of each pair disclosed in the present claims allows for the close tolerance and self-locking engagement. Raetz does not teach such features. As such, Applicant maintains that the subject claims patentably distinguish over Raetz.


Although it is acknowledged that Raetz lacks the specific material designations, the Examiner argues that use of such material on cutting teeth is old and well known in the art, as illustrated by Funakubo. Applicant submits, however, that neither Funakubo nor Wright make up for the aforementioned deficiencies set forth above. Accordingly, Raetz in view of Funakubo, and/or Raetz in view of Funakubo and Wright, nonetheless fail to teach or suggest the subject invention as presently claimed. Thus, reversal of the rejection is respectfully requested.



**CONCLUSION**

For all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that claims 1-3, 5-10, 12-16, 18-20, 23 and 24 are in condition for allowance. For all of the above reasons, Applicant/Appellant respectfully requests this Honorable Board to reverse the rejections of claims 1-3, 5-10, 12-16, 18-20, 23 and 24.

Respectfully submitted,

  
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**APPENDICES**

**VIII. CLAIMS APPENDIX:**

1. (Previously Presented) A quick change cutting link for a saw chain for cutting wood, comprising:

a base member, having a lead end and a rear end, adapted to be pivotally connected to an associated connecting link at each end forming said saw chain, said base member comprising a seat surface having a first taper and a lower surface having a second taper; and

a cutting member that comprises a cutting edge and releasably engages said base member, said cutting member including an upper surface having a third taper and an under surface having a fourth taper, said upper surface having the third taper constructed from sintered and compacted particles of abrasion resistant material, wherein said first taper and said third taper extend at an angle ranging from about  $0.5^\circ$  to about  $45^\circ$  relative to a direction of intended chain travel and said second taper and said fourth taper extend at an angle of about  $0.5^\circ$  to about  $45^\circ$  relative to a direction opposite of intended chain travel, wherein each pair of tapers is at a close tolerance effective to cause self-locking engagement of said first taper of said seat surface and said third taper of said cutting member surface and of said second taper of said lower surface and said fourth taper of said cutting member surface.

2. (Previously Presented) The quick change cutting link of claim 1 wherein said close tolerance comprises no more than about  $1^\circ$ .

3. (Previously Presented) The quick change cutting link of claim 1 wherein said close tolerance comprises no more than  $0.5^\circ$ .

4. (Cancelled)

5. (Previously Presented) The quick change cutting link of claim 1 wherein said base member comprises stamped metal.

6. (Original) The quick change cutting link of claim 1 wherein said base member comprises sintered and compacted particles of abrasion resistant material.

7. (Previously Presented) The quick change cutting link of claim 1 wherein said abrasion resistant material comprises at least one of metal and ceramic.

8. (Original) The quick change cutting link of claim 7 wherein said abrasion resistant material comprises a carbide containing compound.

9. (Original) The quick change cutting link of claim 8 wherein said carbide containing compound comprises a compound selected from the group consisting of tungsten carbide, silicon carbide, tantalum carbide and aluminum carbide.

10. (Previously Presented) The quick change cutting link of claim 1 wherein said abrasion resistant material comprises a tool steel alloy.

11. (Withdrawn) The quick change cutting link of claim 1 wherein one of said seat surface and said cutting member includes an inverted-L shaped protrusion and the other of said seat surface and said cutting member includes an inverted-L shaped recess for receiving said inverted-L shaped protrusion, and wherein one of said first taper and said second taper forms a surface of said L-shaped protrusion.

12. (Original) The quick change cutting link of claim 1 wherein at least one of said cutting member and said base member comprises a water-resistant material applied by a

process selected from the group consisting of steam treatment, resin infiltration, copper infiltration and loctite infiltration.

13. (Original) A saw chain comprising a plurality of the quick change cutting links of claim 1.

14. (Previously Presented) The saw chain of claim 13 wherein said saw chain is adapted for use on a saw comprising one of a chain saw, a timber harvester, a buck saw and a saw for cutting wood pallets.

15. (Previously Presented) A quick change cutting link for a saw chain for cutting wood, comprising:

a base member, having a lead end and a rear end, adapted to be pivotally connected to a connecting link at each end forming said saw chain, said base member comprising a seat surface having a first taper and a lower surface having a second taper; and

a cutting member that comprises a cutting edge and releasably engages said seat surface of said base member, said cutting member including an upper surface with a third taper and an under surface with a fourth taper, said second taper and fourth taper extending at an angle of about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction opposite of intended chain travel, wherein said cutting member and said seat surface each consists essentially of sintered and compacted particles of abrasion resistant material.

16. (Previously Presented) The quick change cutting member of claim 15, wherein the first taper and third taper extend at an angle ranging from about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction of travel of said cutting member when fastened on a chain, said taper having a close tolerance comprising no more than  $0.5^{\circ}$ .

17. (Withdrawn) The quick change cutting member of claim 16 comprising one of an inverted-L shaped protrusion and an inverted-L shaped recess.

18. (Previously Presented) A base member of a cutting link for a saw chain for cutting wood, having a lead end and a rear end, said base member being adapted to be pivotally connected to an associated connecting link at each end forming said saw chain, said base member comprising a seat surface having an upper taper extending at an angle ranging from about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction of intended travel of the base member when fastened on the chain and a lower taper extending at an angle of about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction opposite of intended travel of the base member when fastened on the chain, said upper taper being adapted to mate with a top taper on the associated cutting member and said lower taper being adapted to mate with a bottom taper on an associated cutting member, each taper having a close tolerance comprising no more than  $0.5^{\circ}$  to the mating taper of said associated cutting member, wherein said base member consists essentially of sintered and compacted particles of abrasion resistant material.

19. (Previously Presented) A quick change cutting link for a saw chain for cutting wood, comprising:

a base member, having a lead end and a rear end, adapted to be pivotally connected to a connecting link at each end forming said saw chain, said base member comprising a seat surface having a first taper, a lower surface having a second taper, and a stop surface located upstream of said seat surface relative to the direction of travel of the chain; and

a cutting member that comprises a cutting edge and releasably engages said seat surface of said base member, said cutting member including an upper surface having a third taper and an under surface having a fourth taper, wherein said first taper and said third taper extend at an

angle ranging from about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction of intended chain travel, and said second taper and said fourth taper extend at an angle of about  $0.5^{\circ}$  to about  $45^{\circ}$  relative to a direction opposite of intended chain travel, wherein each pair of tapers is at a close tolerance effective to cause locking engagement of said first taper of said seat surface and said second taper of said cutting member surface, and said cutting member comprises sintered and compacted particles of abrasion resistant material.

20. (Previously Presented) The quick change cutting link of claim 19 wherein said close tolerance comprises no more than  $0.5^{\circ}$ .

21. (Withdrawn) The quick change cutting link of claim 19 wherein one of said seat surface and said cutting member has an inverted-L shaped protrusion and the other of said seat surface and said cutting member has an inverted-L shaped recess for receiving said inverted-L shaped protrusion.

22. (Withdrawn) The quick change cutting link of claim 21 wherein one of said first taper and said second taper forms a surface of said L-shaped protrusion.

23. (Original) The quick change cutting link of claim 19 wherein said first taper and said second taper extend upwardly or downwardly from a location near said cutting edge in a direction opposite to said direction of chain travel.

24. (Original) The quick change cutting link of claim 19 wherein said angle is about 10 degrees or less.

25. (Withdrawn) The quick change cutting link of claim 19 wherein said cutting member includes a leading surface relative to said direction of chain travel which forms said

cutting edge at an upper location of said leading surface, said leading surface having a radius of curvature for a given chain pitch that is proportional to a radius of about 0.25 inch for a chain pitch of 0.750 inch.

26. (Withdrawn) The quick change cutting link of claim 25 wherein said curvature is concave from a point of reference external to said cutting member.

27. (Withdrawn) The quick change cutting link of the claim 1 wherein the cutting member includes a recess to engage the base member.

28. (Cancelled)

29. (Withdrawn) The quick change cutting link of claim 1 wherein the seat surface includes a vertically continuous protrusion extending upward from the base member to engage the cutting member.

30. (Withdrawn) The quick change of claim 1 wherein the seat surface includes a ridge internal wedge.

**IX. EVIDENCE APPENDIX**

NONE



**X. RELATED PROCEEDINGS APPENDIX**

NONE